

Claims Listing:

The pending claims read as follows:

- 1 1. (Previously Presented) A method for routing a packet comprising:
 - 2 dedicating a separate routing table to each domain of a plurality of
 - 3 domains for use in routing packets propagating that domain;
 - 4 receiving the packet from one of the plurality of domains through
 - 5 one of a plurality of interfaces; and
 - 6 determining one of the routing tables for the packet according to a
 - 7 mapping array, the mapping array including pointers that associate the
 - 8 interfaces with the routing tables.
- 1 2. (Original) The method of claim 1 further comprising executing a single IP
- 2 stack to receive the packet and determine the one routing table.
- 1 3. (Original) The method of claim 1 wherein the mapping array associates
- 2 interfaces connecting to the same address domain with the same routing
- 3 table.
- 1 4. (Original) The method of claim 1 further comprising, after the one routing
- 2 table is determined, forwarding the packet according to the one routing
- 3 table if the packet is a data packet.

- 1 5. (Original) The method of claim 1 further comprising, after the one routing
- 2 table is determined, updating the one routing table if the packet is a
- 3 route update packet.
- 1 6. (Original) The method of claim 1 wherein each of the plurality of address
- 2 domains represents a virtual private network.
- 1 7. (Previously Presented) A router comprising:
 - 2 a plurality of separate routing tables, each routing table being
 - 3 dedicated to one of a plurality of address domains for use in routing
 - 4 packets propagating that address domain;
 - 5 interfaces through which packets from the address domains are
 - 6 received; and
 - 7 a domain manager, which includes a mapping array for
 - 8 determining one of the routing tables for the received packets, the
 - 9 mapping array including pointers that associate the interfaces with the
 - 10 routing tables.
- 1 8. (Original) The router of claim 7 wherein the domain manager executes
- 2 a single IP stack to receive the packet and determine the one routing
- 3 table.

1 9. (Original) A router of claim 7 wherein the mapping array associates
2 interfaces connecting to the same address domain with the same routing
3 table.

1 10. (Original) The router of claim 7 wherein the domain manager forwards
2 the packet according to the determined one routing table if the packet is
3 a data packet.

1 11. (Original) The router of claim 7 wherein the domain manager updates
2 the determined one routing table if the packet is a route update packet.

1 12. (Original) The router of claim 7 wherein each of the plurality of address
2 domains represents a virtual private network.

1 13. (Previously Presented) A computer program product residing on a
2 computer readable medium comprising instructions for causing the
3 computer to:

4 dedicate a separate routing table to each domain of the plurality of
5 domains for use in routing packets propagating that domain;
6 receive the packet from one of a plurality of address domains
7 through one of a plurality of interfaces; and
8 determine one of the routing tables for the packet according to a
9 mapping array, the mapping array including pointers that associate the
10 interfaces with the routing tables.

1 14. (Original) The computer program product of claim 13 further
2 comprising instructions for causing the computer to execute a single IP
3 stack to receive the packet and determine the one routing table.

1 15. (Original) The computer program product of claim 13 wherein the
2 mapping array associates interfaces connecting to the same address
3 domain with the same routing table.

1 16. (Original) The computer program product of claim 13 further
2 comprising instructions for causing the computer to, after the one
3 routing table is determined, forward the packet according to the one
4 routing table if the packet is a data packet.

1 17. (Original) The computer program product of claim 13 further
2 comprising instructions for causing the computer to, after the one

3 routing table is determined, update the one routing table if the packet is
4 a route update packet.

1 18. (Original) The computer program product of 13 wherein each of the
2 plurality of address domains represents a virtual private network.

1 19. (Previously Presented) A method for routing a packet, comprising:
2 dedicating a separate routing table to each address domain of a

3 plurality of address domains;

4 connecting at least one interface to each address domain of the
5 plurality of address domains;

6 associating each interface with one of the separate routing tables;

7 receiving the packet from a given one of the plurality of address

8 domains through a given one of the plurality of interfaces; and

9 associating the packet with the given interface through which the
10 packet is received; and

11 selecting one of the separate routing tables for routing the packet
12 based on the given interface with which the packet is associated.

1 20. (Previously Presented) The method of claim 19, wherein the step of
2 associating the packet with the given interface includes inserting an
3 identifier of the given interface into the packet.